

### **REMARKS**

Claims 33 – 36, 38, 40 – 45, 47, 49 -55, 57, 59 - 61 are pending. In accordance with the foregoing, claims 36, 41, 45, 47, 49, 51, 55, 59, 60 and 61 are amended. Claims 33, 42 and 52 are hereby cancelled. The remaining claims including independent claim 61 remain as previously submitted. No claims are added.

Amendments to claims 36, 45, 47, 49, 55 and 59 are supported by limitations in the claims from which they depend and are made only to clarify the claims and to overcome the various objections to the claims and rejections of the claims under Section 112. Amendments to independent claims 41, 51 and 60 remove subject matter objected to by the Examiner and conform the claims to the corresponding language of claim 61, indicated to be unobjectionable.

In addition claims 41, 51, 60 and 61 have been amended to change the language requiring extension of the pacing interval if the signal contains intrinsic components to specify that the extension occurs responsive to the detection of the intrinsic components. It is respectfully asserted that this amendment does not change the scope of the claims from that of the claims as originally presented or as originally interpreted by the Examiner. Therefore, no new matter is believed added by any of the amendments. In the above-referenced Final Office Action, all claims stand rejected. Reconsideration of the application is requested.

#### **1. Objections to the claims and rejections under Section 112.**

The amendments to the claims as set forth above are believed to correct all deficiencies in the claims noted by the Examiner. It is noted that no formal objection or rejection under Section 112 was set forth to claim 61. Most changes are self explanatory. However, changes made with respect to the amendment of independent claims 41, 51 and 60 are based upon the fact that claim 61 was not objected to or rejected under Section 112. It is respectfully asserted that conforming the terminology

of these claims to that of claim 61 should render these claims similarly unobjectionable. Other minor grammatical errors and the like are also corrected.

## 2. Rejections under Section 102

The Examiner has maintained the rejection of all claims under 35 U.S.C. 102(e) as being anticipated by Van Dam (U.S. 6,836,682). This rejection is again respectfully traversed.

The Examiner has responded to the Applicant's previous arguments by arguing that certain limitations of the claims are inherent in Van Dam. It is respectfully asserted that this argument is factually incorrect.

The Final Action states that "it is inherent that the device of Van Dam utilizes a past ventricular signal where the heart is fully captured by the pacing pulse". The stated reason that this is so is that "It is necessary for a pacing pulse to fully capture the heart in order to evoke a cardiac response that generates the QT interval of Van Dam". As a matter of law, unless this statement is true, Van Dam cannot anticipate the claims. This statement, however, is demonstrably false, and the rejection is thus respectfully asserted to be clearly erroneous.

The Van Dam reference measures the time interval between delivery of a pacing pulse and the sensed T-wave to measure QT interval, as is conventional in QT sensing pacemakers. Contrary to the Examiner's assertion, a T-wave may follow the pacing pulse at a particular time delay suitable to be measured as a QT interval under three different circumstances.

The first circumstance is a pacing pulse which does not capture the heart at all, but occurs timed closely to an intrinsic depolarization. The second circumstance is a pacing pulse which partially captures the heart and merges with a spontaneous depolarization, typically referred to as a fusion beat. The third circumstance is a pacing pulse which does completely capture the heart.

Because the argument for inherency is based upon a demonstrably false statement, the inherency argument is per se improper. As a result, the anticipation based rejection of all claims is respectfully asserted to be erroneous.

The Office Action further cites Column 11, lines 54 – 67 of Van Dam as disclosing detecting whether the T-wave following a pacing pulse is an intrinsic T-wave. This statement is also clearly incorrect. This portion of the text reflects the fact that the Van Dam device treats all T-waves following pacing pulses the same and cannot in fact differentiate between intrinsic and evoked T-waves based on morphological differences. The cited text in fact confirms the correctness of Applicant's assertion that Van Dam does not anticipate the claims.

Withdrawal of the rejections of all claims over Van Dam is therefore respectfully requested.

All claims are also rejected under 35 U.S.C. 102(e) as being anticipated by Bradley (U.S. 2003/0050671). This rejection is respectfully traversed.

In the previous Office Action, the Examiner correctly read the claims as requiring that the pacing interval is extended in response to the detection of the intrinsic signal component. In particular, in the preceding Office Action, the Examiner stated that the device in Bradley meets this requirement because it "extends a pacing interval in response to the detecting of an autonomous intrinsic signal component." This exact language is also carried forward in the Final Office Action. As noted above, Applicant has amended the independent claims to adopt the exact language used by the Examiner to describe Bradley, specifying that the interval is extended in response to the detected intrinsic signal component. The amendment is thus not believed to change the scope of the claims from the scope of the claims as originally submitted and as explicitly acknowledged by the Examiner.

The Examiner now cites Bradley for the proposition that it teaches modulation of the AV and VV pacing intervals as part of its rate response function. Undoubtedly this is

so. However, this function is unrelated to the capture detection function also described therein. The claims as previously pending and as presently amended required an extension of the pacing interval if the morphology of the sensed depolarization following a delivered pacing pulse indicated intrinsic activity. There is no causal connection between the morphological analysis in Bradley and the increase (or decrease) of the pacing interval referred to by the Examiner.

Withdrawal of the rejections of all claims over Bradley is therefore respectfully requested.

Applicant appreciates that the Examiner is now reading the required causal connection out of the claims in conjunction with maintaining the 102 rejection over Bradley. It is respectfully asserted that this change in interpretation of the claims and the new interpretation of Bradley actually constitute new grounds of rejection which should have properly been set forth in a non-final action. If the Examiner finds it necessary to issue a rejection of the amended claims 41, 51, 60 and 61 because of the change in language discussed above, it is therefore respectfully requested that the rejection take the form of a non-final action. It is respectfully asserted that amending claims to correspond exactly to the Examiner's characterization of the cited allegedly anticipatory prior art cannot be reasonably argued to require the citation of new references.

Applicant asserts that the remarks presented herein are fully responsive to the Office Action and are sufficient to overcome the rejections presented in the Office Action. However, there may be other arguments to be made as to why the pending claims are patentable. Applicant does not concede any such arguments by having not presented them herein. Further, Applicant reserves the right to re-present any originally filed, cancelled, and/or previously unclaimed subject matter in a subsequently filed continuing application without prejudice or disclaimer. Applicant respectfully asserts that the present claims are in condition for allowance. Withdrawal of the instant rejections and issuance of a Notice of Allowance is respectfully requested.

Should any issues remain outstanding, the Examiner is urged to telephone the undersigned to expedite prosecution. The Commissioner is authorized to charge any deficiencies and credit any overpayments to Deposit Account No. 13-2546.

Respectfully submitted,

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